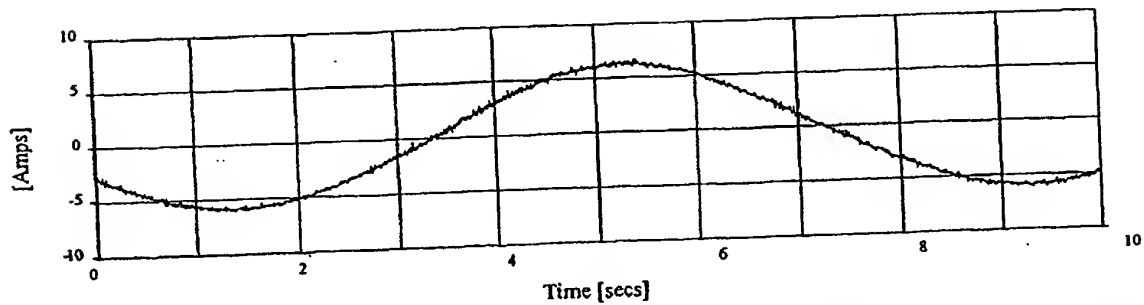


Figure 1: The Matrix Converter Circuit and Controller

Figure 2A An Output Current Waveform for the Matrix Converter with an Induction Motor Load
Switching Frequency = 4kHz, Motor Shaft Speed = 3rpm

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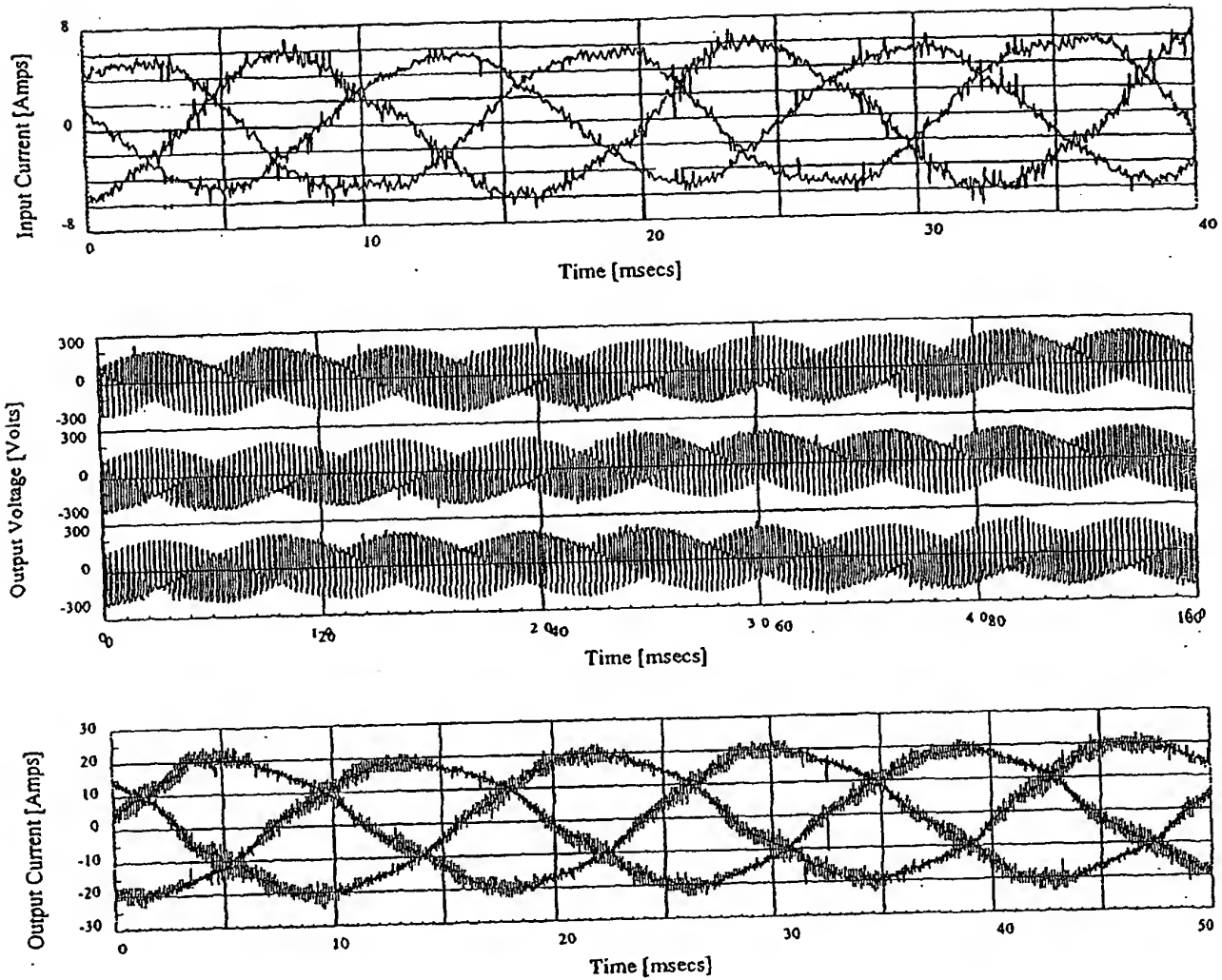


Figure 2B Input Current, Output Voltage and Output Current Waveforms
for the Matrix Converter with an Induction Motor Load
Switching Frequency = 4kHz, Input Frequency = 60Hz, Output frequency = 40Hz

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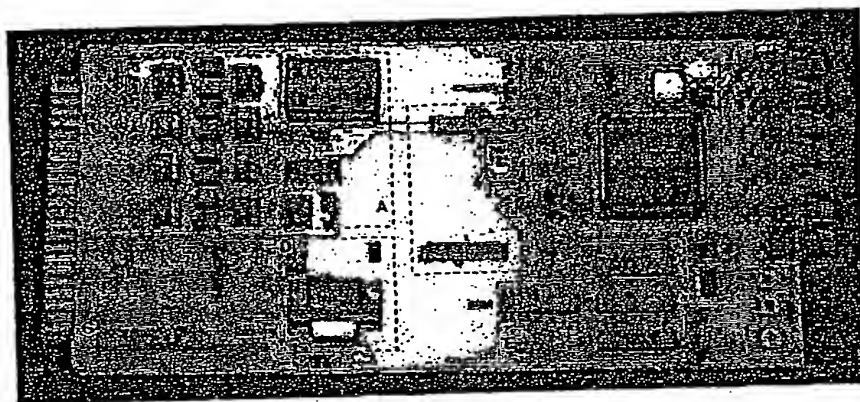


Figure 3 Photograph of the controller card

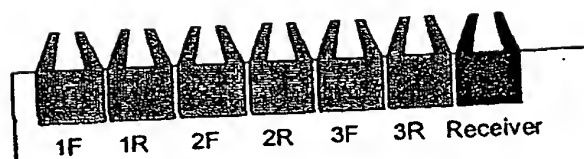


Figure 4A



Figure 4B

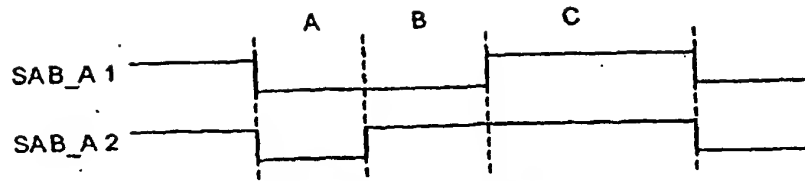


Figure 5 Micro con troller PWM ou tput

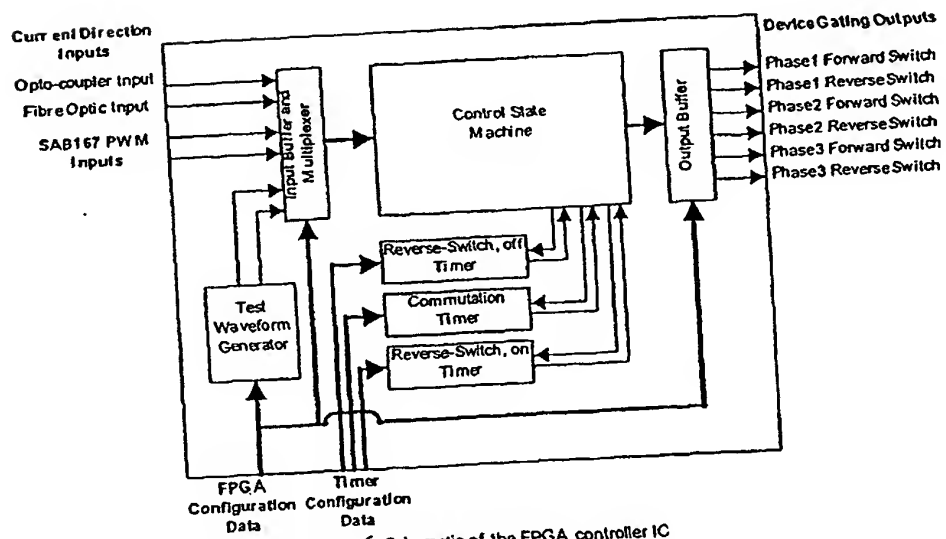


Figure 6 Schematic of the FPGA controller IC

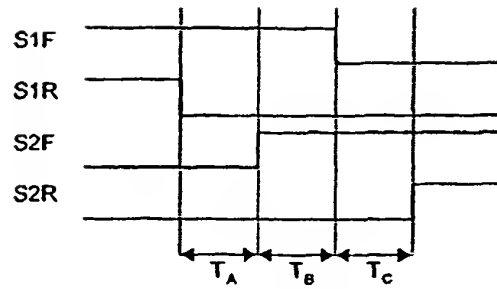


Figure 7

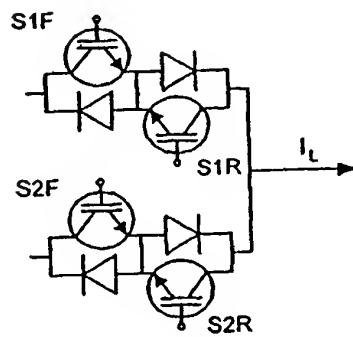


Figure 8

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